INSTRUCTIONS
FOR
INSTALLATION and OPERATION

Pressure Regulators or Pump Governors

RP-1065-A thru RP-1068-A

Spring adjusted type for steam, air, gas, or water. Valve sizes ½" thru 2" Single-Seated, 2½" thru 4" Double-Seated.

TYPICAL INSTALLATIONS

Fig. 1. Typical installation of a Pressure Regulator. Showing feeler pipe connection and pressure gauge. Feeler pipe is connected to reduced pressure side of supply line and at point where control is desired.

Fig. 2. Showing installation of a Pressure Regulator controlling pressure in a closed vessel. Note regulator is installed as close as possible to the tank.

Fig. 3 Showing installation of a Pressure Relief Valve. The feeler pipe is connected to the high pressure or upstream side of the supply line and at point where control is desired.

Fig. 4. A typical installation of a Pump Governor. Regulating valve is installed in the steam supply line “B” to pump. Feeler pipe is connected in pump outlet line “A” carrying medium being pumped. Adjustable orifice must be used as shown.

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INSTRUCTION MANUAL NUMBER

P-2085

Rev. A
balanced double-seated valves 2½", 3" and 4". Under conditions of high pressure drop, the forces opposing valve closure will influence selection of the regulator model (diaphragm size). See "Accuracy of Regulation" tabulation for actual port area unbalance.

### STEAM CAPACITY

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>Valve C,</th>
<th>Max. Pressure</th>
<th>Max.</th>
<th>Maximum Pounds per Hour</th>
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**NOTE:** For capacities where the setpoint is greater than 50% of the supply pressure, use the valve sizing slide rule or consult a factory representative.

### ADJUSTMENT

This regulator can be set to control at any pressure within the limits of the pressure range stamped on its nameplate.

After placing the regulator in service, allow several minutes to reach stable operation, then observe pressure. If not correct, change the pressure setting in manner directed below.

To RAISE pressure setting, turn adjustment wheel to RIGHT (see arrow "A," Fig. 5).

To LOWER pressure setting, turn adjustment wheel to LEFT (see arrow "B," Fig. 5).

Make new settings as necessary until desired pressure is obtained.

The regulator has a scale plate to indicate the position of the adjustment. This feature is helpful in resetting the adjustment when frequent changes are necessary. Scale graduations are not in pounds per square inch.

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Page Two
MAINTENANCE

This regulator, if properly installed and used, should require very little attention or maintenance; however, every piece of mechanical equipment deserves some care.

Packing:

Valve stem packing nut should be kept only fingertight. If valve stem packing must be replaced, follow steps below (see Fig. 6).
1. Remove lock pin.
2. Remove locknut and separate control from valve.
3. Remove packing nut and packing gland.
4. Remove bonnet from valve.
5. Remove packing, spring plate and spring.
6. Clean out packing box with a clean rag or soft paper.
7. Wipe off stem with clean rag. DO NOT attempt to polish. If stem is scratched or nicked around packing area, it should be replaced.
8. Replace bonnet on valve.
9. Carefully place new packing in packing box. If chevron packing is not available, in an emergency, repack with a good grade of graphited string packing. Put a small amount of good packing lubricant in the stuffing box while repacking. This packing, however, should be replaced with Teflon* chevron packing as soon as possible.
10. Replace packing gland.

11. Replace packing nut and tighten.
12. Connect valve to control and tighten locknut.
13. Insert lock pin.

*Trademark of DuPont Company.

Removing or Installing Valve:

1. Remove lock pin “D” (Fig. 5). (Do not disturb locknut connecting regulator stem to connector.)
2. Remove locknut “E” (Fig. 5) and lift regulator frame off valve body.
3. Remove valve from line.
4. To install valve, reverse the above operations.

Pressure Element:

The pressure element consists of bellows and cup and is not repairable. In event of damage the complete unit must be replaced.

To remove pressure element, follow steps listed below.
1. Turn adjusting wheel to left (see arrow B, Fig. 5) until adjusting wheel is all the way down.
2. Remove screws “C” (Fig. 5) and lift off element.
3. To install element, reverse the above operations.

Refacing Valve Seat:

Under certain conditions the valve seat may be lapped with the valve poppet. However, this should be done only by an experienced person. If the valve poppet or insert is badly scored it should be replaced.

If valve is to be lapped, remove regulator from valve (see “Removing Valve”), remove bonnet, and place a small amount of (extremely fine) grinding compound or a graphited paste made by mixing fine flecks of graphite with engine oil. Apply this to the valve insert face. In lapping, every effort should be made to avoid scoring or grooving the contact faces. Wipe poppet and insert thoroughly with a clean rag after each operation.

Use light pressure in lapping even to the extent of holding up part of the weight of the poppet as it is rotated. Frequently lift off poppet to check surface.

Heavy pressures cause the grains to become embedded in the material and will produce deep grooves or scores.

When seating face of poppet is smooth, groove or lapping scores in seating face of insert, if not too deep, does not particularly harm or in some cases seems to assist in getting a quick seat. Wipe away all compound from the valve poppet and inserts.

Valve repair kits are available for some valves.

Trouble Shooting:

This regulator is supplied to operate within the pressure stated on the nameplate and the valve has been ground to close tight against line pressure specified on your order. If the regulator does not function properly immediately after completing installation and you are unable to correct the trouble, write to the factory and outline your difficulty. In writing to the factory, please give the type regulator, the size, serial number, etc.

If the regulator has been operating satisfactorily for some time and trouble develops, the following information may be of assistance.

Check packing nut (see Fig. 6) to be sure it is only finger tight and the valve stem is free to move up and down without undue friction.

The usual cause for poor control over the reduced pressure is the collection of scale or other foreign matter on the seats. Such matter may hold the poppet off seat and in time, cause the seat or poppet to become scored. To inspect seats and poppet, remove valve bonnet.
DIMENSIONS, SHIPPING WEIGHTS

FLANGE DIMENSIONS

RESERVOIR NO. 24669-A

ADJUSTABLE ORIFICE NO. 94204-A SERIES

Valve Types

Fig. 7
Type "CI" Valve
Direct-Acting

Fig. 8
Type "MC" Valve

Fig. 9
Type "FA" Valve
Direct-Acting

Fig. 10
Type "FA" Valve
Reverse-Acting

Valve Size | % | %** | %* | %1 | %2 | %3 | %4
---|---|---|---|---|---|---|---
%1 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2"
%3 1" | 1" | 1" | 1" | 1" | 1" | 1" | 1"
%4 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2"

Valve Type
- CI - Single-Seated
- MC - Single-Seated
- Ported Balanced
- FA - Double-Seated

Body Material
- Cast Iron
- Stainless Steel

Valve Trim
- Screwed
- Flanged - 125 lb

Shipping Weight
- 1/4 lb
- 1 lb
- 2 lb
- 5 lb
- 7 lb
- 10 lb

Other Notes:
- On special order, bronze body valve with bronze trim can be furnished in 2-1/2", 3" and 4" sizes. 150 lb. MSS flanges standard. Full ported valves with different materials of construction are available on sizes 2" and smaller.

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